Table 1 Cost effectiveness in net costs per major outcome averted (in US$) for Amsterdam (Netherlands) of screening 15–25 year aged women (15–30 in parentheses) for asymptomatic *Chlamydia trachomatis* in systematic and opportunistic approaches for the baseline and in sensitivity analysis (PID risk at 10% instead of 20% in the baseline; assuming high performance testing*; and pooling†)

	Systematic	Opportunistic
Baseline	5300 (6300)	1700 (3100)
PID risk at 10%	11100 (12900)	4100 (6900)
High performance testing	4100 (4900)	1300 (2600)
Pooling	2000 (2400)	500 (1200)

*PCR testing with sensitivity of 98.8% and specificity of 99.9%[5]; †pooling of urine specimens by five with relative sensitivity and specificity of 100%.[5]

above and sensitivity analysis (PID risk at 10%, high performance testing and pooling).[1 5]

In the baseline analysis cost effectiveness is US$5300 per MOA for systematic screening of women aged 15–25 and $1400 for opportunistic screening of that same age group. Including sensitivity analysis, cost effectiveness of systematic screening ranges from $2000–$11 100 per MOA (see table 1). For opportunistic screening this range is $500–$4100 per MOA. For the age group of 15–30, cost effectiveness is estimated to be generally slightly less favourable.

We conclude that opportunistic instead of systematic screening reduces net costs per MOA up to 75% (age groups 15–25) and by approximately 50% (age groups 15–30) over a range of plausible assumptions. Opportunistic CT screening in Amsterdam is therefore more attractive than systematic screening from a pharmacoeconomic point of view. Obviously, pharmacoeconomics only present one aspect in decision making concerning CT screening, others being, for example, implementation issues and budgetary constraints.

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Major improvements in cost effectiveness of screening women for *Chlamydia trachomatis* using pooled urine specimens and high performance testing

Screening of asymptomatic *Chlamydia trachomatis* (CT) infections is indicated to prevent the spread of CT and the development of secondary complications like pelvic inflammatory disease, ectopic pregnancy, and tubal infertility. Cost effectiveness presents an important aspect in the decision making regarding actual implementation. A recent paper in this journal by Van Valkengoed *et al*[1] addressed cost effectiveness, using an established pharmacoeconomic model,[2] of a systematic screening programme for asymptomatic CT infections in women registered in general practices in Amsterdam, based on mailed home obtained urine specimens.[3] The aim of this letter is to extend the application of the pharmacoeconomic model with regard to pooling and improved test performances (sensitivity and specificity).

We recently determined the sensitivity and specificity for two commercially available CT detection assays for urine specimens from asymptomatically CT infected women and men.[4] In total, 2906 mailed home obtained urine specimens were tested for CT using both ligase chain reaction (LCR) and polymerase chain reaction (PCR) testing. We showed that for individual testing, the test sensitivity/specificity for LCR and PCR could be estimated at 78.6%/99.7% and 98.8%/99.9%, respectively. Furthermore, we recently showed by using individual urine samples (n = 650) and samples pooled by five (n =130) that pooling has a relative sensitivity and specificity of 100%. Since only CT positive pools have to be analysed for the individual CT positive cases approximately 60% of the number of tests could be saved in our population with an estimated CT prevalence of 2–3%.[5]

In the pharmacoeconomic model test performances of 85.0% sensitivity and 99.0% specificity were previously assumed.[1] Furthermore, the model included population based estimates of CT prevalence, the costs of the programme, the health gain effects and the related monetary benefits. Health gain effects considered were averted pelvic inflammatory disease, chronic pelvic pain, ectopic pregnancy, infertility, and neonatal pneumonia (major outcomes averted; MOA). Both direct and indirect costs and benefits were considered. We investigated the effects on baseline cost effectiveness of pooling and improvements in test performance.

Population based prevalence in the systematic screening was 2.2% for women aged 15–40 and 2.9% for women aged 15–25. Van Valkengoed *et al* estimated baseline cost effectiveness for systematic screening in Amsterdam using LCR at net costs of US$11 100 for women aged 15–25 and $15 800 per MOA for women aged 15–40 (table 1).[1] High performance testing of 98.8% sensitivity and 99.9% specificity was estimated to reduce net cost per MOA by approximately 20%. Pooling urine specimens by five was estimated to reduce net costs per MOA by 57%. A total decrease of 67%

Table 1 Cost effectiveness in net costs per major outcome averted (in US$) for Amsterdam (Netherlands) of two screening strategies for asymptomatic *Chlamydia trachomatis* (women aged 15–25 and women aged 15–40), in the baseline, assuming high performance testing*, pooling†, and both

	Women aged (years)	
	15–25	15–40
Baseline	11100	15800
High performance testing	8900	12400
Pooling	4800	6800
High performance testing and pooling	3700	5200

*PCR testing with sensitivity of 98.8% and specificity of 99.9%[4]; †pooling of urine specimens by five with relative sensitivity and specificity of 100%.[5]

was estimated if both high performance testing and pooling are assumed (table 1).

We conclude that with pooling and application of high performance testing major improvements in cost effectiveness of screening women for asymptomatic CT can be obtained.

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Anti-HIV serology in patients with sexual dysphoria in screening test before sex change surgery

The health and behavioural issues of homosexual men and women have recently become a focus of research and interest. A well conceived framework within which to consider the uniqueness of problems faced by homosexual youths and the role of healthcare providers is needed.[1] Significant physical morbidity occurs among homosexual men and women because healthcare providers are often unaware of their actual or potential health concerns. Physical health concerns mainly include HIV disease, hepatitis, and other sexually transmitted diseases. Healthcare professionals, who are clinically competent in the care of homosexual men and women, should have the opportunity to reduce the risk of disease, while providing unbiased, quality care which recognises the unique problems of this population.[2] In this study, we report the prevalence of HIV infection among the homosexual men and women who visited the pre-admission clinic, King Chulalongkorn Memorial Hospital, Bangkok, for further sex change surgery.

Table 1 Demographic data and anti-HIV serology

Demographic	Anti-HIV serology: Positive (n=2)	Negative (n=33)
Sex		
Male	2	31
Female	0	2
Occupation		
Beauty salon workers	1	17
"Gay show" workers	1	12
Private business	0	2
Secretary	0	1
Student	0	1
Injecting drug use		
Ever	0	0
Never	0	33
Previous plastic surgery		
Ever	1	5
Never	0	29
Hormone injection		
Ever	0	20
Never	0	15
Abnormal sexual intercourse		
Ever	2	14
Never	0	19

A prospective study on the data concerning anti-HIV test for 35 cases (33 homosexual men and two lesbian women) with sexual dysphoria who attended the pre-admission clinic, King Chulalongkorn Memorial Hospital, Bangkok for further sex change surgery, during years 1999 and 2000 was performed. The demographic data about occupation, injecting drug use, previous plastic surgery, hormone injection, and abnormal sexual intercourse (as oral and anal sex) were also reviewed for each case.

For all 35 cases of sexual dysphoria, only two cases of anti-HIV seropositivity were detected. The prevalence was equal to 5.71%. These two cases were homosexual. The demographic data of HIV seronegative and HIV seropositive cases are shown in table 1.

Currently, the two major routes of transmission of HIV are blood borne and sexual propagation. Sexual propagation also includes the abnormal sexual behaviour such as oral and anal sex found in the "gay" population.[3] Unique aspects of Thai culture have shaped the response of homosexual men and women to HIV infection in Thailand. Thailand is a relatively homogeneous society that has, by and large, felt invulnerable to AIDS, viewing it primarily as a Western phenomenon. This attitude has also been common in the gay community and has resulted in some homosexual men and women engaging in high risk behaviour.

In Thailand it has been argued that HIV infection is still a major health problem among homosexual men and women. The current HIV epidemic among young homosexual men and women is a major public health concern. Nevertheless, hardly any specific HIV education interventions have been designed for this population. In this study, the rather high rate of HIV infection among the homosexual men and women attending the hospital for further sex change surgery was detected. Compared with the rate in the general population in Thailand,[4] this rate is five times higher. Therefore, this population is still a target group for HIV infection, and thus, proper control for this population is necessary.

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Neuropsychiatric reaction induced by clarithromycin

We read with interest the case report by Prime and French[1] describing a person with HIV infection who developed a severe neuropsychiatric reaction during clarithromycin, zidovudine, didanosine, and nevirapine treatment. The authors suggest that this reaction was caused by the clarithromycin and not the antiretrovirals. Indeed, central nervous system (CNS) symptoms are a known side effect of clarithromycin.[2] CNS adverse effects, however, have also been reported with zidovudine[3] and efavirenz.[4]

So far with nevirapine neuropsychiatric side effects have not been described. For this reason we would like to report the case of a patient who developed CNS side effects shortly after starting nevirapine.

A 40 year old woman with HIV infection was initially treated with ritonavir, saquinavir, and stavudine. Because she developed lipodystrophy she was switched to nevirapine, lamivudine, and zidovudine. Shortly after starting this treatment, she started to feel depressed and to experience bad dreams. Her CD4+ lymphocyte count was 727×10^9/l and her viral load was undetectable. She was living under stressful conditions (her husband was also living with HIV) but according to her there was no recent change in her life to explain this depression. The nevirapine was replaced by abacavir and from then on the CNS side effects rapidly disappeared.

This case report strongly suggests that the nevirapine was responsible for the CNS symptoms.

CNS side effects related to antiviral treatment may be caused by high drug levels. Clarithromycin is known to increase nevirapine levels by about 26%.[5] The fact that in the patient described by Prime and French the neuropsychiatric symptoms disappeared within 72 hours after stopping the clarithromycin suggests this drug was responsible for